

leaf-roller (*Omiodes meyricki*) taken at Mountain View.

*Amblyteles koebeli*.—Mr. Bridwell exhibited specimens of this Ichneumonid and stated that from material collected on Maui, he could distinguish a second species. Unfortunately, only males have been collected up to the present. It is a dark-winged form without black bands on the abdomen. The form described by Swezey as *Ichneumon koebeli* is also dark-winged, but only in the opposite sex, its male being a very light form with light wings. Mr. Timberlake stated that the form is congeneric with *Amblyteles* species, and not so with forms now called *Ichneumon*.

*Mimulapis versatilis*.\*—Mr. Bridwell exhibited the type series of this bee and also some other bees with very diverse characters, all of which had at some time or other been included in the genus *Prosopis*.

*New Anthomyid*.—Mr. Timberlake exhibited an Anthomyid fly captured recently in Honolulu on Lunalilo St. near Victoria. It is an immigrant not previously collected. It is light gray and has a transverse black band across the thorax.

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MAY 1st, 1919.

The 164th meeting of the Society was held in the usual place, with Vice-President Crawford in the chair. Other members present: Messrs. Bridwell, Fullaway, Muir, Pemberton, Rosa, Swezey, Timberlake and Willard.

Minutes of previous meeting were read and approved.

PAPERS.

**Notes on the Immigrant Hawaiian Species of Ichneumonini or Pimplini of Authors (Hymenoptera).**

BY P. H. TIMBERLAKE.

As there seems to be some misunderstanding concerning the identity of the *Pimpla hawaiiensis* of Cameron, the writer

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\*Proc. Haw. Ent. Soc., IV, No. 1, p. 163. 1919.

\*Proc. Haw. Ent. Soc., IV, No. 2, June, 1920.

has thought it wise to redescribe the species with a review of the host records. In accordance with a recent paper by Cushman and Rohwer<sup>\*\*</sup> the species must be placed in the genus *Ephialtes* Schrank. A species that is best referred to *Itopectis* is also brought forward as new.

***Ephialtes hawaiiensis* (Cameron).**

*Pimpla hawaiiensis* Cameron, Mem. Manchester Lit. & Phil. Soc., 10 (3rd Ser.), 1886, p. 239, ♂.

*Pimpla hawaiiensis* Ashmead, Fauna Hawaiiensis, 1, pt. 3, 1901, p. 339, ♀, ♂.

*Pimpla hawaiiensis* Swezey, Ent. Bull., 5, Exper. Stat., H. S. P. A., 1907, p. 42, pl. 5, fig. 5, ♀, ♂.

*Pimpla turionellae* Morley, Rev. Ichn., 3, 1914, p. 60, 66, (in part).

There seems to be considerable confusion in regard to this species probably arising from the fact that Ashmead failed to describe the female correctly. That the hind legs are entirely red in the female was not brought out, Ashmead merely adding to Cameron's description of the male, which was copied verbatim with one slight omission, the length, and the statement that the ovipositor is less than one-half the abdomen. This may account for Perkins believing that there is a second "commonplace *Pimpla*" in the Islands<sup>†</sup>, a record which I cannot accept as all the local collections show but this one species and the new *Itopectis* described below. Morley has synonymized *hawaiiensis* with *Ephialtes turionellae* (Linné) after examining Cameron's type male. While there seems to be no reason to dispute Morley's decision that the male of this species is quite typical of *turionellae*, this in itself even if entirely true is not sufficient grounds for synonymizing the species, since two species as in the present case may be quite or nearly identical in one sex and as clearly distinct in the other.

*Hawaiiensis* is probably an immigrant from some part of America and Perkins considered that he had seen the same

\* Proc. Entom. Soc. Washington, 20, Apr., 1919, pp. 186-188.

† Fauna Hawaiiensis, 2, pt. 6, 1910, p. 676.

species from Mexico. In the entirely red legs of the female and oval propodeal spiracles it is close to *Ephialtes punicipes* (Cresson) recorded from Mexico and Central America, but differs according to the characters given *punicipes* by Morley (Rev. Ichn. 3, 1914, pp. 59, 63) in having no carinae on the propodeum and no trace of areas, and in the male in having the hind tibiae and tarsi black with a white annulus on the basal half of the tibiae.

♀.—Shining black; the legs nearly morocco red (Rdgway), the front coxae blackish at base, the front legs often with a somewhat yellowish cast especially on the tibiae and tarsi, the hind tibiae slightly more brownish although rarely distinctly so, the hind tarsi still more brownish on the upper side, the last joint becoming fuscous at apex, all the claws blackish at apex, the femoro-trochanter articulation sometimes blackish; palpi yellowish brown, becoming fuscous on the basal joints; antennae brown, the flagellum shading into fuscous on the apical half, the scape black; the line marking the upper limits of the clypeal impression often more or less reddish brown especially at the sides; tegulae fuscous, becoming yellowish at base; spicula of ovipositor dark castaneous, the sheaths black; wings somewhat fuliginous, the veins and stigma mostly fuscous or blackish, the latter yellowish at base and the costal vein more or less yellowish on its basal half.

Head transverse, no wider than the thorax; the temples short, oblique; the eyes slightly emarginate internally; the frons deeply excavated to form the scrobes, with a slight median carina forking in front of the ocelli; face a little wider than long, convex, slightly protuberant medianly, with a slight indication of a median carina above; cheeks long; clypeus at apex truncate with a slight median emargination; antennae slender, perfectly filiform, the flagellum with 27 to 30 joints. Face and base of clypeus finely, rather closely punctate; the cheeks, temples, vertex and occiput comparatively impunctate, smooth and shining; the frons very finely punctate, the scrobes sometimes transversely aciculate in large specimens, but usually smooth in small specimens. Face with a moderately long, rather abundant yellowish pubescence, which becomes longer on the base of the clypeus and on the mandibles.

Notauli absent; the epinemia bent forward on the pleura in a broad curve but rather widely separated from the propleura at either end; the propodeum without areas, only the pleural carinae being present, the spiracles rather small and oval. Propleura transversely aciculate except above; the mesoscutum and scutellum appearing impunctate under low magnification, but actually with very minute, rather close punctures, which become somewhat larger and very crowded on the anterior part of the scutum; mesopleura with a similar but somewhat more distinct puncturation above, becoming coarser and much closer below and on

the sternum, the prepectus, however, finely rugose; propodeum rugosely punctate becoming coarsely rugose dorsad, the petiolar region smooth, shining and limited above by transverse cariniform rugosities; the metapleura finely rugoso-punctate. Mesonotum with a much finer, shorter pubescence than on the face; that on the mesopleura a little longer than on the scutum and that on the propodeum as long and dense as on the face.

Abdomen about a third longer than the head and thorax; basal tergite slightly longer than its apical width, its basal half flattened, not or hardly excavated medianly, forming an obtuse angle with the apical, transverse part; the following tergites transverse, the second longest, the rest gradually shortening, the third and fourth widest; the second to fourth with a slight transverse impression on each side half way between the middle and apex, a longitudinal furrow on each side close to the lateral margin and a somewhat oblique furrow on either side on basal half just within the spiracles, the intervening area between these sulci forming a spiracular protuberance, which is smooth and shining with the spiracle located at its apical end, and forming a distinct although small emargination on the sides of the second and third tergites in dorsal aspect; apical margin of the first five tergites slightly elevated and impunctate, the basal half of the first, the basal margin of the second together with the three apical tergites also impunctate, smooth and shining, with a delicate reticulate surface sculpture except at base of first two segments; apical half of the first and the four following tergites otherwise densely, moderately coarsely punctate with round punctures, and hardly at all tuberculate either before or behind the transverse impression; the last tergite with two fine impressed lines meeting in an acute angle at the middle of the basal margin, the enclosed triangular area having the surface sculpture finer and smoother; pubescence rather conspicuous on the venter and wide epipleura, on the sides of the apical tergites and on the apical margin of the eighth tergite; the basal and middle tergites with an extremely fine or microscopic pubescence; ovipositor about one-half as long as the abdomen, its sheaths finely, densely pubescent.

Legs of the usual type, the front tibiae dorsally thickened at the middle and then somewhat rapidly constricted towards the apex; last joint of the tarsi about thrice as long as the fourth; the claws simple although greatly widened at base. Areolet of wings sessile, quadrangular, the transverse vein emitted beyond its middle; the discocubital vein slightly arcuate, usually not broken; apical abscissa of radius straight; nervulus a little postfurcal or sometimes interstitial; nervellus of hind wings broken somewhat more than half way above its middle.

Length: About 5 to 10 mm., smaller specimens being most abundant.

♂.—Similar to female, the antennae rarely brown, usually entirely fuscous or blackish; the hind tibiae and tarsi black, with the tibial spurs and a band from the middle half way to the base of the tibiae pale yellowish or white; the middle tibiae with a similar pattern, but the dark

parts much diluted or brownish and restricted to the dorsal side; apex of the last joint of the front and middle tarsi with their claws blackish.

Eyes less emarginate, the face more distinctly protuberant; antennae much stouter with the flagellum slightly attenuated towards the apex and composed of 26 to 29 joints. Abdomen about a half longer than the head and thorax, slenderer; the basal tergite about a half longer than wide, hardly narrowed at base, its basal part distinctly excavated and shorter than the apical portion, which is about as long as wide or a little longer; second tergite about as long as wide, or sometimes slightly longer than wide, the four following tergites about equally long and all transverse; the seventh tergite narrowed towards apex and about as long as its apical width; the eighth small and often retracted or concealed within the seventh, divided into two lobes by an oblique angulated suture down the middle, the left lobe overlapping the right, the cerci short and rather stout, situated on either side of the truncate apex; eighth ventrite triangular with the apex rounded, stipites (or valvulae) of the genitalia black, covered externally with a fine, white, moderately thick pubescence, somewhat over twice as long as wide at base, tapering to the rounded apex (sometimes appearing very acute at apex if folded in drying); sagittae united with a median suture evident, ligulate, about four times as long as wide at base, tapering very gradually to the rounded apex, apically curved downward and testaceous in color.

Sculpture for the most part much finer than in the female, especially on the propodeum and abdomen; the propodeum almost always with the transverse wrinkles on the disk much reduced or entirely absent especially in smaller specimens, the smooth area of the petiolar region then extending forward narrowly to the base; abdomen finely, closely punctate, with the puncturation finer on the apical tergites, being still distinct on the sixth, much less so on the seventh and absent on the eighth; apical margin of the first six tergites distinctly elevated and impunctate, and like the smoother parts of the following tergites very finely reticulate; the basal excavation of the first tergite smooth, shining and not reticulate.

Pubescence on the whole more abundant and prominent than in the female; being especially long and prominent on the sides of the propodeum; the tergites of abdomen except the eighth all rather densely pubescent with fine, short, white hair.

Length: 4 to 8 mm.

This species has been recorded from Hawaii, Lanai, Maui, Molokai and Oahu by Ashmead and also occurs on Kauai, where it has been collected by Terry, Swezey, Kusehe and the writer. It is found at all elevations, but apparently it is quite as common if not more so in the lowlands, and is often abundant in Honolulu.

It was recorded by Kirkaldy (Hawaiian Forester & Agriculturist, 1, 1904, p. 209) as a parasite of *Omiodes accepta* Butler, and of several unspecified Tineids and Tortricids from Perkins' rearings. Perkins (Proc. Haw. Ent. Soc. 1, 1906, p. 44) recorded it with other parasites from *Omiodes*, *Agrotis*, *Vanessa* and *Scotorythra*, so that some of these records almost certainly do not apply to this species. Swezey in 1907 (Ent. Bull. 5, Exper. Stat. H. S. P. A., p. 43) recorded it from Perkins' rearings as a parasite of *Omiodes accepta* and *O. blackburni* Butler, *Azinis bilarella* now known to be *Ethmia colonella* Walsingham, and two species of *Cacoccia*, at present known as *Archips postrittanus* (Walker) and *Amorbia emigratella* Busck. In 1915 Swezey (Proc. Haw. Ent. Soc., 3, p. 105) recorded it from the following additional hosts: *Cryptoblabes aliena* Swezey, *Euhyposmocoma ekaha* Swezey, *Cryptophlebia illepada* (Butler), *Pectinophora gossypiella* (Saunders) and *Hyposmocoma liturala* Walsingham. More recently Mr. Bridwell has reared it from *Cryptophlebia vulpes* Walsingham as well as from *C. illepada*.

It always issues from the pupae of its hosts, and pupates nearly nakedly within the empty pupal shell, as the larva does not spin a definite cocoon although it does line the shell with a comparatively small amount of silk.

***Itoplectis immigrans* n. sp.**

A rather shining black species, with the first five segments of abdomen ferruginous, which in the non-emarginate clypeus, the deeply emarginate eyes, somewhat attenuated antennae, short cheeks, the simple claws of the middle and hind tarsi, obsolete notauli, rather small oval spiracles, and nervellus broken far above the middle agrees with *Itoplectis*, although the pubescence is neither especially long nor recumbent, and the front claws are also simple. The peculiar coarse and rugose sculpture of the abdomen is similar to that of certain species of *Hemipimpla*.

♀.—Head, mandibles, thorax and apex of abdomen rather shining black; the first five tergites of abdomen and sides of the sixth nearly

burnt sienna (Ridgway); palpi yellow; antennae pale brown with the scape and the articulations of the flagellum especially towards its base blackish; legs nearly concolorous with the base of abdomen, the front and middle coxae sometimes yellowish; basal half of the front and middle tibiae and the tarsi strongly yellowish, the apex of the last joint of the middle tarsi and especially of the hind tarsi blackish, of the front tarsi hardly darker; knee-joint of hind legs and apical fourth of the hind tibiae black; rest of the hind tibiae yellow, shading into ferruginous beyond the middle; tegulae and sometimes a small dot on the posterior dorsal corners of the propleura yellowish; ovipositor black, the spicula dark reddish brown; wings subhyaline, the veins mostly fuscous with the radix, costal vein, base of subcostal and base of the stigma brown or brownish yellow.

Head not quite so wide as the mesothorax, transverse, very strongly narrowed behind the eyes, the temples being moderately long, but very oblique and declivous; frons rather deeply excavated to form the scrobes, with a slight medial elevation in front of the ocelli; eyes strongly emarginate internally; face nearly quadrate, slightly narrowed towards the mouth, uniformly and rather strongly convex; clypeus impressed anteriorly and with the apical margin somewhat rounded; cheeks very short; antennae about three-fourths as long as the body, slender and nearly filiform although distinctly attenuated towards the base of the flagellum, the latter 22 to 23-jointed, with a very fine, soft, short and thick pubescence. Face, base of clypeus, and scape finely, closely punctate, the face with a short, impressed sculptureless line descending medially from the antennal scrobes; impressed part of clypeus, the frons, vertex, temples and occiput polished and smooth or with excessively fine punctures, especially on the temples, the raised portion of the frons in front of the ocelli very finely, closely punctate. The grey pubescence of the face moderately thick and half erect, and considerably longer on the base of the mandibles and clypeus; temples very finely pubescent.

Thorax short and stout, strongly narrowed before and behind the gibbous mesopleura; mesoscutum rather strongly convex, the notauli wholly absent, the scutellum slightly convex; mesopleura strongly gibbous below the superior longitudinal furrow, the protuberance above the furrow and just below the tegulae narrow, somewhat cariniform, and very much less elevated than the gibbous part below; epicnemialia running nearly vertically upward on to the pleura, not much inclined forward and widely separated at the extremities from the propleural suture. Propodeum not very strongly convex above and weakly declivous posteriorly; pleural carina complete; the lateral carinae of the petiolar area distinct only to the obsolete apophyses, disappearing anteriorly so that the dentiparal and spiracular areas are more or less confluent; areolar carinae not greatly distant from each other, subparallel basally, continuing apically to beyond the apophyses, where they rapidly diverge and disappear; areola with the confluent basal area more than twice as long as wide, the petiolar region short and somewhat transverse, not bounded

by a transverse carina above; propodeal spiracles rather small and oval. Mesoscutum somewhat more coarsely and as closely punctate as the face; the pro- and mesopleura including the prepectus a little more finely and much more sparsely punctate than the face; scutellum and metanotum (postscutellum) more coarsely punctate than the mesoscutum; areola and petiolar area of propodeum smooth or nearly so, and sometimes separated from each other by transverse rugosities; dentiparal region much more coarsely punctate than the mesoscutum but more sparsely, the spiracular region confluent and as equally coarsely punctate, the pleural region with a finer, sparser puncturation. The mesoscutum pubescent like the face; the apex of scutellum and the propodeum with a much longer and more recumbent pubescence.

Abdomen somewhat less than twice as long as head and thorax together, elongate fusiform, as wide as the base of the propodeum but not so wide as the mesothorax, the tergites strongly convex from side to side; basal tergite distinctly longer than the hind coxae and about a third longer than its apical width, the discal carinae extending about to the middle, then continued as rounded ridges nearly to the apex between which the postpetiole is slightly longitudinally furrowed, and laterad of which it is strongly declivous with a lateral carina reaching to the spiracles; the latter located at one-third from base; following tergites transverse, and becoming gradually shorter towards the apex, the second being longest, the fourth and fifth the widest, and following two the most transverse; second to fifth tergites each with the usual oblique impression on each side at base, and a subapical transverse impression which curves forward on each side to intercept the oblique impression, the area on each side between the impressions very slightly inflated or indistinctly tuberculate, the lateral margins longitudinally depressed and enclosing with the oblique impressions a spiracular protuberance at the basal corners, visible in dorsal view with an emargination behind especially on the second and third tergites; the second tergite with linear, slightly oblique, deep gastrocoeli reaching nearly to the middle. First to fifth tergites coarsely, closely and more or less confluent rugosopunctate with oval punctures, the base of the first, however, smooth between the carinae, and the apical margin of the following segments very slightly elevated and smoothish behind the transverse impression, the depression on the lateral margins more finely punctate, and the spiracular protuberance and gastrocoeli smooth; sixth to eighth tergites with the punctuation similar to that of the mesopleura, the eighth somewhat more closely punctate and provided with two short impressed lines converging and meeting at the middle of the base or just in front of the basal margin, with the enclosed triangular area smooth. Epipleura (ventral portions of the tergites) rather wide but not strongly chitinized; the sixth ventrite (hypopygium) squarely and broadly truncate in front of the base of the ovipositor; protruded portion of the ovipositor about as long as the basal segment and a little longer than its basal or non-protruded portion, the sheaths taken together cylindrical, thickly covered with moderate



ly long black hair. The grey pubescence on the tergites short, recumbent and sparser than on the mesoscutum, longer, somewhat thicker and at least much more prominent, however, on the black apical segments.

Legs rather short and stout; the front tibiae a little swollen and faintly constricted beyond the middle; the hind femora somewhat swollen; the hind tarsi long, the apical joint thickened towards the apex, excluding the claws about five to six times as long as the fourth joint or nearly as long as the second to fourth joints combined which are equal to first; all the claws including those of the front tarsi simple, slightly thickened at base, moderately incurved at apex and rather small, the pulvilli shorter than the claws.

Areolet of front wings rather large, broadly sessile or almost pentagonal; the discocubital vein slightly arcuate and not broken; apical abscissa of the radius very nearly straight; nervulus interstitial, or only slightly antefurcal; nervellus of hind wings broken somewhat more than half-way above the middle.

Length: 8 mm., the ovipositor 1.25 mm.

♂ Similar in color to the female throughout; the first five segments of the abdomen ferruginous, the sixth segment black with the apical and basal margins narrowly ferruginous or varying to almost entirely pale except a narrow subapical blackish band; antennae slightly darker. Legs concolorous with base of abdomen, or the front and middle pair varying to yellow, with the upper side of the femora and the apex of the middle tibiae remaining a little darker or more reddish; the hind trochanters and basal part of the pale band on hind tibiae varying to yellowish; claws of front tarsi towards apex and their pulvillus, the apical third of the last joint of the middle and hind tarsi, apex of the first and second joints of the hind tarsi, apex of hind femora and base of hind tibiae narrowly, with the apex of the latter more broadly, black or blackish.

Eyes rather more deeply emarginate than in female; the antennae considerably stouter, the flagellum composed of 23 to 24 joints, attenuated at base and somewhat less so towards apex; head otherwise, and the thorax as in female. Abdomen proportionately slightly longer and narrower than in the female, the segments less transverse since the eighth is usually nearly entirely retracted within the seventh, whereas it is always prominent in the female; basal tergite about a third longer than its apical width, strongly constricted at base, the basal third obliquely declivous with two dorsal carinae which strongly converge but do not meet posteriorly, the enclosed area slightly excavated and more deeply so at the base; the apical part nearly quadrate, slightly and broadly furrowed medially, declivous on the sides and with lateral carinae behind the spiracles which are situated a little before the middle of the segment; second tergite not greatly wider than long, the third to fifth the most transverse, the sixth a little longer than the preceding segment, the seventh triangular with the apex rounded, as long as wide, and a little longer than the sixth; eighth tergite when drawn or dissected out is

found to be divided by a median unchitinized area into two lobes, the right lobe overlapping the left; the cerci short and thick, inserted on either side of the truncate apex. Eighth ventrite similar in shape to the seventh tergite but not more than one-half as large; stipites (valvulae) of the genitalia black, covered externally with a fine, black pubescence, not very wide at base, somewhat over twice as long as the basal width, and tapering towards the rounded apex; sagittae piceous, united to form a ligulate organ about three times as long as wide, and somewhat curved downward at the acute apex. Wings and legs as in female, but the tarsi slightly shorter, the apical joint not quite so elongate, the claws rather larger and more curved at apex.

Sculpture and impressions very nearly the same throughout as in the female, but the spiracular protuberance at the basal corners of the tergites smaller, the basal segment smoothish between the carinae on the basal third, becoming punctate above between the apices of the carinae; and a longitudinal, median impression present on the second tergite between the gastrocoeli. Pubescence similar throughout to that of female, but considerably longer on the face and somewhat longer on the propodeum.

Length: 6.75 to 9 mm.

Described from two females, four males, all except one collected by Mr. Swezey. Type female, Mt. View, Hawaii, Aug. 22, 1912; paratype female, Ookala, Hawaii, Mar. 22, 1906; allotype male, Ninlii, Hawaii, May 19, 1917; paratype male, Pahala, Hawaii, May 21, 1915; paratype male, Kohala, Hawaii, June 1909 (F. W. Terry); paratype male, Kipahulu, Maui, July 15, 1906. Types in the collection of the Hawaiian Entomological Society.

This species does not occur on Oahu apparently, as it can hardly be the undetermined "*Pimpla*" species mentioned by Perkins (Fauna Hawaiiensis, 2, part 6, 1910, p. 676), since under any ordinary circumstances it would not be called "commonplace".